

## **IN THE CLAIMS**

Please amend the claims as follows.

1-3 (Cancelled)

4. (Previously Presented) An apparatus comprising:

at least one processor;

a memory coupled to the at least one processor;

a plurality of logical partitions defined on the apparatus, the plurality of logical partitions comprising at least one logical partition that owns identified I/O and at least one logical partition that does not own the identified I/O; and

a partition manager residing in the memory and executed by the at least one processor and executing separately from the plurality of logical partitions, the partition manager performing the steps of:

(1) detecting when the identified I/O requires reconfiguration;

(2) suspending all of the plurality of logical partitions by inhibiting dispatch of tasks to all of the plurality of logical partitions and waiting until all pending tasks in all of the plurality of logical partitions are complete;

(3) reconfiguring the identified I/O; and

(4) resuming all of the plurality of logical partitions by enabling dispatch of tasks to all of the plurality of logical partitions.

5. (Previously Presented) An apparatus comprising:
- at least one processor;
  - a memory coupled to the at least one processor;
  - a plurality of logical partitions defined on the apparatus, the plurality of logical partitions comprising at least one logical partition that owns identified I/O and at least one logical partition that does not own the identified I/O;
  - a partition manager residing in the memory and executed by the at least one processor and executing separately from the plurality of logical partitions, the partition manager performing the steps of:
    - (1) quiescing the identified I/O;
    - (2) suspending all of the plurality of logical partitions by inhibiting dispatch of tasks to all of the plurality of logical partitions and waiting until all pending tasks in all of the plurality of logical partitions are complete;
    - (3) reconfiguring the identified I/O;
    - (4) enabling the reconfigured identified I/O; and
    - (5) resuming all of the plurality of logical partitions by enabling dispatch of tasks to all of the plurality of logical partitions.

6-8 (Cancelled)

9. (Previously Presented) A computer-implemented method for reconfiguring identified I/O in a computer system that includes a plurality of logical partitions managed by a partition manager executing separately from the plurality of logical partitions, the plurality of logical partitions comprising at least one logical partition that owns the identified I/O and at least one logical partition that does not own the identified I/O, the method comprising the steps of:

- (1) the partition manager detecting when the identified I/O requires reconfiguration;
- (2) the partition manager suspending all of the plurality of logical partitions by inhibiting dispatch of tasks to all of the plurality of logical partitions and waiting until all pending tasks in all of the plurality of logical partitions are complete;
- (3) the partition manager reconfiguring the identified I/O; and
- (4) the partition manager resuming all of the plurality of logical partitions by enabling dispatch of tasks to all of the plurality of logical partitions.

10. (Previously Presented) A computer-implemented method for reconfiguring identified I/O in a computer system that includes a plurality of logical partitions managed by a partition manager executing separately from the plurality of logical partitions, the plurality of logical partitions comprising at least one logical partition that owns the identified I/O and at least one logical partition that does not own the identified I/O, the method comprising the steps of:

- (1) the partition manager quiescing the identified I/O;
- (2) the partition manager suspending all of the plurality of logical partitions by inhibiting dispatch of tasks to all of the plurality of logical partitions and waiting until all pending tasks in all of the plurality of logical partitions are complete;
- (3) the partition manager reconfiguring the identified I/O;
- (4) the partition manager enabling the reconfigured identified I/O; and
- (5) the partition manager resuming all of the plurality of logical partitions by enabling dispatch of tasks to all of the plurality of logical partitions.

11-15 (Cancelled)

16. (Previously Presented) A computer readable program product comprising:

(A) a partition manager executing separately from a plurality of logical partitions, the plurality of logical partitions comprising at least one logical partition that owns identified I/O and at least one logical partition that does not own the identified I/O, the partition manager performing the steps of:

(1) detecting when the identified I/O requires reconfiguration;

(2) suspending all of the plurality of logical partitions by inhibiting dispatch of tasks to all of the plurality of logical partitions and waiting until all pending tasks in all of the plurality of logical partitions are complete;

(3) reconfiguring the identified I/O; and

(4) resuming all of the plurality of logical partitions by enabling dispatch of tasks to all of the plurality of logical partitions; and

(B) computer readable recordable media bearing the partition manager.

17-18 (Cancelled)

19. (Previously Presented) A computer readable program product comprising:
- (A) a partition manager executing separately from a plurality of logical partitions, the plurality of logical partitions comprising at least one logical partition that owns identified I/O and at least one logical partition that does not own the identified I/O, the partition manager performing the steps of:
    - (1) quiescing the identified I/O;
    - (2) suspending all of the plurality of logical partitions by inhibiting dispatch of tasks to all of the plurality of logical partitions and waiting until all pending tasks in all of the plurality of logical partitions are complete;
    - (3) reconfiguring the identified I/O;
    - (4) enabling the reconfigured identified I/O; and
    - (5) resuming all of the plurality of logical partitions by enabling dispatch of tasks to all of the plurality of logical partitions; and
  - (B) computer readable recordable media bearing the partition manager.

20-21 (Cancelled)

22. (Previously Presented) An apparatus comprising:

at least one processor;

a memory coupled to the at least one processor;

a plurality of I/O towers coupled to the apparatus via a plurality of I/O loops;

a plurality of logical partitions defined on the apparatus, the plurality of logical partitions comprising a first logical partition that owns identified I/O in a first I/O loop and a second logical partition that does not own the identified I/O in the first I/O loop;

a partition manager residing in the memory and executed by the at least one processor, the partition manager managing the plurality of logical partitions and executing separately from the plurality of logical partitions, the partition manager performing the steps of:

(1) detecting when the first I/O loop is unbalanced;

(2) quiescing I/O resources in the first loop;

(3) determining which of the plurality of logical partitions own the I/O resources in the first loop;

(4) suspending the logical partitions determined in step (3);

(5) rebalancing the first I/O loop by allocating at least one I/O resource in the first loop from the first logical partition to the second logical partition;

(6) enabling the I/O in the first loop after rebalancing in step (5); and

(7) resuming the logical partitions suspended in step (4).

23. (Currently Amended) A computer-implemented method for rebalancing an I/O loop in a computer system that includes a plurality of logical partitions managed by a partition manager executing separately from the plurality of logical partitions, the method comprising the steps of:

- (1) detecting when the ~~first~~ I/O loop is unbalanced;
- (2) quiescing I/O resources in the ~~first~~ I/O loop;
- (3) determining which of the plurality of logical partitions own the I/O resources in the ~~first~~ I/O loop;
- (4) suspending the logical partitions determined in step (3);
- (5) rebalancing the ~~first~~ I/O loop by allocating at least one I/O resource in the ~~first~~ I/O loop from ~~[[the]]~~ a first logical partition to ~~[[the]]~~ a second logical partition;
- (6) enabling the I/O in the ~~first~~ I/O loop after rebalancing in step (5); and
- (7) resuming the logical partitions suspended in step (4).

24. (Currently Amended) A computer readable program product comprising:

(A) a partition manager executing separately from a plurality of logical partitions, the partition manager performing the steps of:

- (1) detecting when at least one I/O loop is unbalanced;
- ~~(2) suspending all of the plurality of logical partitions by inhibiting dispatch of tasks to all of the plurality of logical partitions and waiting until all pending tasks in all of the plurality of logical partitions are complete;~~
- ~~(3) reconfiguring the I/O loop so the I/O loop is balanced;~~
- ~~(4) resuming all of the plurality of logical partitions by enabling dispatch of tasks to all of the plurality of logical partitions;~~
- (2) quiescing I/O resources in the at least one I/O loop;
- (3) determining which of the plurality of logical partitions own the I/O resources in the at least one I/O loop;
- (4) suspending the logical partitions determined in step (3);
- (5) rebalancing the at least one I/O loop by allocating at least one I/O resource in the at least one I/O loop from a first logical partition to a second logical partition;
- (6) enabling the I/O in the at least one I/O loop after rebalancing in step (5);
- (7) resuming the logical partitions suspended in step (4); and

(B) computer readable recordable media bearing the partition manager.



## **STATUS OF THE CLAIMS**

Claims 1-21 were originally filed in this patent application. In response to the first office action dated 8/30/2005, applicants filed an amendment on 11/30/2005 that cancelled claims 12, 13, 17, 18, 20 and 21 and amended claims 1, 4-6, 9-11, 16 and 19. In response to the second office action dated 02/06/2006, an RCE and Amendment were filed on 05/04/2006. In response to the third office action dated 07/12/2006, an amendment was filed on 10/11/2006 that amended claims 1, 4-6, 9-11, 16 and 19. In response to the fourth office action dated 12/04/2006, an RCE and Amendment were filed on 03/02/2007 that cancelled claims 2-3, 7-8, and 14-15. In response to the fifth office action dated 03/27/2007 claims 1, 6, and 11 were cancelled and claims 22-24 were added. In the pending sixth office action, claims 4-5, 9-10, 16, 19, and 22-24 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Publication No. 2003/0084030 to Day *et al.* (hereinafter “Day”) in view of U.S. Patent Publication No. 2002/0112102 to Tarui *et al.* (hereinafter “Tarui”), and further in view of U.S. Patent Publication No. 2003/0163641 to Kaneko. No claim was allowed. In the pending office action, claims 23 and 24 have been amended. Claims 4-5, 9-10, 16, 19, and 22-24 are currently pending.